

CLAIMS

1. A boring head with cutting advance independent of rotation, comprising:

- 5       - a body which can be connected to the spindle quill of a machine tool, this quill being movable at least by electric means,
- an axial shaft capable of being connected in terms of rotation to the spindle arranged in the quill, 10 said spindle being itself connected to an electric motor capable of driving it at a variable rotational speed under the control of a programmer or other equivalent programmable command and control unit,
- a carriage that can be moved radially by the 15 meshing of its rack with a driving pinion arranged in the body,
- and a tool holder fixed to the free end of the carriage, wherein the transmission of the rotational movement to 20 the driving pinion of the carriage is provided by two epicyclic gear trains in cascade, namely:
  - a first train with a cage mounted so that it can rotate about the axial shaft and the crown wheel of which meshes with a pinion fitted onto the shaft of an 25 electric motor carried by the body, this train carrying at least two superposed planet pinions mounted so that they are free to rotate in the cage and meshing, in the case of the upper one, with a set of teeth formed around the axial shaft and, in the case of the lower 30 one, with an output sun gear,
  - a second train, the sun gear of which is secured to the output sun gear of the first train and meshes with the upper planet pinion of at least one set of superposed planet pinions which are mounted so that 35 they are free to rotate in a continuation of the body, the lower planet pinion meshing with a set of teeth which, formed on the driving pinion of the carriage, is distinct from the set of teeth that collaborates with the rack of this carriage,

these two sun gears having ratios which are other than 1 and inverse, while the electric motor driving the cage and the one translating the quill are powered under the control of the command and control unit.

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2. The boring head as claimed in claim 1, wherein the ratio of the first epicyclic gear train is  $1/1.008$ , while that of the second train is  $1.008$ .

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3. The boring head as claimed in claim 1, wherein the motor driving the cage of the first epicyclic gear train is of brushless type, with built-in encoder.